



A.D. 1857 N^o 194.

S P E C I F I C A T I O N

OF

GUSTAVE PEREZ DI TERMINI.

ARTIFICIAL HANDS.

L O N D O N :

PRINTED BY GEORGE L. EYRE AND WILLIAM SPOTTISWOODE,

PRINTERS TO THE QUEEN'S MOST EXCELLENT MAJESTY :

PUBLISHED AT THE GREAT SEAL PATENT OFFICE,

26, SOUTHAMPTON BUILDINGS, HOLBORN.

1857.



A.D. 1857 N° 194.

Artificial Hands.

LETTERS PATENT to Gustave Perez di Termini, of 50, Friday Street, in the City of London, for the Invention of "IMPROVEMENTS IN THE CONSTRUCTION OF ARTIFICIAL HANDS."

Sealed the 3rd April 1857, and dated the 22nd January 1857.

PROVISIONAL SPECIFICATION left by the said Gustave Perez di Termini at the Office of the Commissioners of Patents, with his Petition, on the 22nd January 1857.

I, GUSTAVE PEREZ DI TERMINI, of 50, Friday Street, in the City of London,
5 do hereby declare the nature of the Invention for "IMPROVEMENTS IN THE CONSTRUCTION OF ARTIFICIAL HANDS," to be as follows :—

This Invention consists in arranging artificial hands with fingers which can be brought together so as to nip between their ends any thing which the wearer may desire to take hold of, or which can be drawn together so as to
10 embrace the object which it is desired to hold, in a similar way to that in which it would be seized by the natural hand. The hand is attached to the arm or stump by a properly articulated frame ascending to the shoulder, and in order to give motion to the fingers the end of the arm or stump is furnished with a six-sided projection, which fits into a suitable socket, having on its exterior
15 a series of inclines or portions of screw threads, which work with a corre-

Termini's Improvements in the Construction of Artificial Hands.

sponding nut, so that by giving to the arm or stump a partial rotation this nut is raised or lowered, and this motion is by a suitable arrangement of levers communicated to the fingers of the hand.

SPECIFICATION in pursuance of the conditions of the Letters Patent, filed by the said Gustave Perez di Termini in the Great Seal Patent Office 5 on the 28th April 1857.

TO ALL TO WHOM THESE PRESENTS SHALL COME, I, GUSTAVE PEREZ DI TERMINI, of 50, Friday Street, in the City of London, send greeting.

WHEREAS Her most Excellent Majesty Queen Victoria, by Her Letters 10 Patent, bearing date the Twenty-second day of January, in the year of our Lord One thousand eight hundred and fifty-seven, in the twentieth year of Her reign, did, for Herself, Her heirs and successors, give and grant unto me, the said Gustave Perez di Termini, Her special licence that I, the said Gustave Perez di Termini, my executors, administrators, and assigns, or such others 15 as I, the said Gustave Perez di Termini, my executors, administrators, and assigns, should at any time agree with, and no others, from time to time and at all times thereafter during the term therein expressed, should and lawfully might make, use, exercise, and vend, within the United Kingdom of Great Britain and Ireland, the Channel Islands, and Isle of Man, an Invention for 20 "IMPROVEMENTS IN THE CONSTRUCTION OF ARTIFICIAL HANDS," upon the condition (amongst others) that I, the said Gustave Perez di Termini, my executors or administrators, by an instrument in writing under my, or their, or one of their hands and seals, should particularly describe and ascertain the nature of the said Invention, and in what manner the same was to be performed, and 25 cause the same to be filed in the Great Seal Patent Office within six calendar months next and immediately after the date of the said Letters Patent.

NOW KNOW YE, that I, the said Gustave Perez di Termini, do hereby declare the nature of the said Invention, and in what manner the same is to be performed, to be particularly described and ascertained in and by the following 30 statement thereof, that is to say:—

This Invention consists in arranging artificial hands with fingers which can be brought together so as to nip between their ends any thing which the wearer may desire to take hold of, or which can be drawn together so as to embrace the object which it is desired to hold, in a similar way to that in which 35

Termini's Improvements in the Construction of Artificial Hands.

it would be seized by the natural hand. The hand is attached to the arm or stump by a properly articulated frame ascending to the shoulder, and in order to give motion to the fingers, the end of the arm or stump is furnished with a six-sided projection, which fits into a suitable socket, having on its exterior 5 a series of inclines or portions of screw threads, which work with a corresponding nut, so that by giving to the arm or stump a partial rotation this nut is raised or lowered, and this motion is by a suitable arrangement of levers communicated to the fingers of the hand.

And in order that my said Invention may be most fully understood and 10 readily carried into effect, I will proceed to describe the Drawing hereunto annexed.

DESCRIPTION OF THE DRAWING.

Figure 1 is a side view, partly in section, of an artificial hand constructed according to my Invention; and Figure 2 is a sketch, shewing the way in 15 which the hand is attached to the arm of the wearer. a, a^1 , are two metal blades, jointed at a^x, a^x , and connected together at their upper ends by curved metal bands b, b , so as to form a cradle, in which the arm is held by the straps c, c , which buckle together in front of the arm as is shown; d, d , are other straps, attached at the ends of the blades a, a^1 ; one of these straps d is 20 attached to the longer blade a , which passes up the outside of the arm and terminates at the shoulder; and the two other straps d, d , are attached to the end of the shorter blade a^1 which passes up the inside of the arm and terminates under the arm pit; all the straps d, d , meet together at a point between the shoulder and the neck and are there connected to another strap 25 which passes round the back and chest and under the other arm. The blades a, a^1 , are connected together near their lower ends by the ring f , and also at their extreme ends by another ring g , in which a second ring h turns freely. The ring h has flanges at its ends to prevent it from sliding out of the ring g , and at the top it is closed by a metal plate h^1 , in the centre of which is a 30 hexagonal hole or socket for receiving the projection i formed on the bottom of the cup i^1 ; this cup contains a plaster cast of the end of the arm or stump of the wearer, so as correctly to fit to it when it is introduced into it. On the inside of the ring h screws or inclined grooves are cut, into which the screw threads formed on the third ring j fit. k is a connecting piece carried 35 by the ring j ; it has at its end a cross head, to the ends of which are hinged the links l , (the piece k is shown separately by the Figure 3,) connecting it with the ends of the finger levers m (shown separately at Figure 4). These

Termini's Improvements in the Construction of Artificial Hands.

levers are jointed at m^1 to the frame n , which is fixed to the blades a , a^1 , and the ring g . The ends m^2 , m^2 , of the levers m , m , form the fingers of the hand, and their ends are brought together or removed from each other when the wearer rotates his arm or stump, as will be readily understood from the description already given. m^3 , m^3 , are enlargements formed near the roots of the fingers, between which any article of moderate thickness may be firmly held. Figure 5 is a side view, partly in section, of a hand with four fingers and a thumb, and these, in place of being rigid, as in the hand already described, are articulated in the same way as the natural hand. The rings g , h , and j are similar to the rings marked with these letters in Figure 1. k is a connecting piece, also similar to the piece marked with that letter in Figure 1, but slightly different from it in form. (A side view of this piece with the ring j is shewn at Figure 6, and a plan at k , Figure 7). l , l , are links connecting the piece k with the finger lever o and the thumb lever p ; side and edge views of these pieces are shewn in Figure 7. The levers o and p turn on centres o^1 and p^1 in the frame q , which is shown separately at Figures 8, 9, and 10, Figure 8 being a plan, and Figures 9 and 10 side views thereof. q^1 is a projection on the frame q , to which the link r is jointed. This link r is connected at its other end to the bent lever s , turning on the centre o^2 , carried by the finger lever o . At the extreme end of this lever another link t is jointed, connecting the lever o with the lever u , which turns on the centre s^1 , carried by the lever s . On the frame q is another projection q^2 , to which the link v is jointed. This link is connected at its other end to the bent lever w , turning on the centre p^2 , carried by the thumb lever p . The different parts being arranged in this manner, it will be seen that when the ring j is drawn down, by rotating the arm or stump, the finger and thumb will be brought together, as is shown by dotted lines in Figure 5. The other fingers of the hand may be arranged in the same way as the forefinger, but I consider that they will be more useful if arranged according to the method shown in the Drawing, Figure 7. o^3 , o^3 , o^3 , are notched projections carried by the finger lever o , and pin-jointed to pieces w , which carry spring catches w^1 , so that the pieces w can be locked at any required inclination to the finger lever o . The heads of the pieces w have notches like those in the projections o^3 , and they have other similar but smaller pieces jointed to them to form the second joints of the fingers, and these again carry other pieces which terminate the fingers.

Figure 11 is a front view of the finger lever o and the parts attached to it, and Figure 12 shows one of the fingers separately. The whole of the mechanism of the hand is cased in thin metal jointed so as to be flexible at

Termini's Improvements in the Construction of Artificial Hands.

the joints, and covered with a skin of fine leather, padded underneath, so as accurately to imitate the form of a natural hand.

In witness whereof, I, the said Gustave Perez di Termini, have here-
unto set my hand and seal, this Eleventh day of April, in the year
of our Lord One thousand eight hundred and fifty-seven.

GUSTAVE PEREZ. (L.S.)

Witness,

W^m MARDON, Sol^r,

Christchurch Chambers,

99, Newgate St., London.

LONDON:

Printed by GEORGE EDWARD EYRE and WILLIAM SPOTTISWOODE,
Printers to the Queen's most Excellent Majesty. 1857.



